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Science Advice in Washington: A Male Monopoly

More women are coming into the scientific and engineering professions and rising to important positions in both, though their numbers still remain disproportionately small. However, far less change has been achieved at one of the most important junctures of science-and-government relations: the senior advisory committees that are intended to provide the government with independent, expert counsel on science and technology. With very minor exceptions, these influential, little-scrutinized committees endure as old-boy territory on the prehistoric model.

Little changed for decades, the male-female imbalance on these groups can't be blamed on the political atmosphere surrounding science in the Bush Administration or its predecessors. Politicians have the final say on the membership of many advisory committees. But, by and large, they leave the appointment process to their fulltime scientific subordinates—mostly men.

The top committee in the federal science hierarchy, the President's Council of Advisors on Science and Technology (PCAST), currently consists of 13 members, of whom only one is a woman—Mary L. Good, Senior Vice President for Research and Technology, Allied-Signal, who was appointed last November. The only other woman to serve on PCAST, Bernadine Healy, resigned last year when she was appointed Director of the National Institutes of Health.

PCAST, a creation of the Bush Administration, is the successor to similar White House science advisory councils dating back to the Eisenhower era. Over the decades, women members have been a rarity, and for long periods, the memberships have been entirely male. Good's appointment to PCAST reduced the sparse female presence on another senior advisory group, the National Science Board, policing making body of the

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A Slow Start for Helping Science in the Ex-USSR

After a year of paralytic thumbsucking, the Bush Administration is slowly and cautiously responding to urgent appeals from American scientists eager to save the research enterprise of the ex-Soviet Union.

The confused and unsettled state of affairs in Russia and the other newly independent republics has all along been cited as a major barrier to throwing a lifeline to their science and technology institutions. But there has also been a plentiful supply of suspicions that the Pentagon and the State Department preferred to see the old evil empire's high-tech capabilities wither away. Initially, the only exception to a do-nothing policy was the assignment of \$25 million in Pentagon funds in February for a Moscow International Science and Technology Center intended to keep nuclear-weapons scientists there from mercenary service with third-world nuclear aspirants.

With a few minor exceptions, nothing more was forthcoming from the US until last week, when the Administration, under severe criticism from Congress and the US science establishment, announced it would spend \$14 million to purchase nuclear and space technology from ex-Soviet labs.

Nonetheless, despite urgings from many quarters to get moving while there's still time, caution and frugality still

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In Brief

Whatever happened to Project SOCRATES, the Pentagon's worldwide program for monitoring sci/tech and industry in other nations? A report by the General Accounting Office says the program died in 1990 "because high level executive branch officials felt that the project's reports were trying to promote an 'industrial policy' that they did not endorse." In the Bush lexicon of economic vice, "industrial policy" means direct government help for high-tech industry. The report, *Foreign Technology* (GAO/NSIAD-92-101), is available without charge from: USGAO, PO Box 6015, Gaithersburg, Md. 20877; tel. 202/275-6241.

Walter Stewart, student of scientific misconduct in tandem with his partner at NIH, Ned Feder, was officially denied permission last month to deliver a talk titled "The Baltimore Fiasco: A Case Study in Fraud," dealing with the long-running case involving Nobel Laureate David Baltimore. The title was too tangy for the statesmen of biomedical policy. In response to this suppression of free speech, Stewart suggested a cheerier title: "The Baltimore Triumph: New Horizons in Integrity." With that change, Stewart received permission to give his talk, delivered to a group of chemists in New York.

Defense cuts have caused a drop in aerospace employment, according to the Aerospace Industries Association, which reports a loss of 106,000 jobs in 1991, including 12,000 scientists and engineers.

... On DOE's Top Council, 28 Men, One Woman

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National Science Foundation, where Good served as Chairman. With 24 members at full strength, there's now only one woman on the Board, Marye Anne Fox, Professor of Chemistry, University of Texas, Austin.

Science Board Chairman James J. Duderstadt, President of the University of Michigan, told SGR that the names of other women have been forwarded to the President, who nominates members of the Board, but that none has been accepted.

But don't blame George Bush. The reality of the appointment process to the National Science Board is that it basically takes place in a small world of male-dominated science. Candidates are first screened by the White House Office of Science and Technology Policy (OSTP), whose Director and all four Associate Directors are male. Grubby political considerations rarely enter into appointments to the Board; the decisions are mainly left to scientists.

Bernadine Healy, the first woman to head NIH, is served by an Advisory Committee to the Director of NIH, which currently has 14 members, most of whom were on board for standard four-year terms when Healy became Director last April. In addition to Healy, who serves as Chairman, the committee includes only two other women: Professor Patricia King, of the Georgetown University Law Center, and Donna E. Shalala, Chancellor of the University of Wisconsin-Madison. Pending is the appointment of another woman, Wilma P. Mankiller, Principal Chief, Cherokee Nation of Oklahoma.

In the administration of NIH's system of research grants, the most critical hurdle is peer review, which is carried out by scores of study sections. The current membership consists of 1268 men and 392 women. Imbalanced as it is, it is nonetheless one of the closest male-female ratios in the federal system.

The senior advisory body at the Department of Energy is the Secretary of Energy Advisory Committee, currently comprising 29 members, among whom there's one woman, Susan D. Wiltshire, Senior Associate, J.K. Associates, Inc., of Hamilton, Mass.

The most baleful influence on the gender gap in government science advice is the 129-year-old, prestige-laden National Academy of Sciences, situated on the periphery of official Washington, and male dominated to a degree that is astonishing at the approach of century's end. The same applies to the closely linked National Academy of Engineering, founded in 1964. Both Academies claim to recognize the elite of their professions. Both are self-perpetuating, i.e., the present members elect the new members.

The active membership of the Academy of Sciences now stands at 1499 men and 67 women. The most recent election brought in 55 men and five women.

The membership of the Academy of Engineering consists of 1605 men and 23 women. In 1991, 76 men and three

women were elected. In 1990, the engineers bestowed membership upon John Sununu, then White House Chief of Staff. In his pre-political career as a PhD engineer, professor, and industrialist, Sununu had escaped the notice of the engineering academicians. His candidacy may have been enhanced by his anti-regulatory fervor, much in harmony with the values of some of the corporate dinosaurs who pull the strings at the Academy of Engineering.

Closely affiliated with the two Academies is a somewhat different organization, the Institute of Medicine, founded in 1970 as the health-policy arm of the Academy complex. Election is on the basis of professional distinction in any of a variety of health-related fields, plus a willingness to take on advisory duties—which does not apply to the members of the Academies for the Sciences and Engineering.

But though drawing its membership from a wide professional population in which women are well represented, the Institute is another male-dominated bastion—to a lesser degree, however, than the two Academies. The membership consists of 437 men and 81 women. Forty men and 10 women were elected last year.

The effects of the dearth of women in the two Academies and the Institute of Medicine is difficult to track in the linkage between science and government. But the Academy complex—particularly the venerable Academy of Sciences—is a powerful presence in science politics.

Only the Nobel Prize carries greater professional distinction than membership in the Academy of Sciences. Chartered by Congress during the Civil War as both an honorary society and a scientific and technical adviser to the government, the Academy wears a halo of professional integrity and quality that causes federal agencies to covet its advice, and pay dearly to get it. Academy membership constitutes a plus when federal agencies are shopping for advisers.

Eight of the 13 members of the President's Council of Advisors on Science and Technology (PCAST) are members of either the Sciences or Engineering Academies. A symbiosis exists between Academy membership and advi-

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... Finally, Academy Membership for Woman Nobelist

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sory eminence. The PCAST Chairman, Presidential Science Advisor D. Allan Bromley, was not an Academy member when he took up his federal duties in 1989, at age 63, about 10 years beyond the average age of election to the Academy. Though Bromley had a long and distinguished career as a nuclear physicist at Yale, Academy membership had eluded him. The year after he took up his Presidential duties, he was elected to the National Academy of Sciences.

In 1990, the Academy, at that point 96.3 percent male, tidied up an especially embarrassing matter by electing to membership one of the most distinguished members of the scientific community, Gertrude B. Elion, whose long and productive career had been crowned two years earlier with the Nobel Prize. She had escaped notice of the electors at the Academy until the whispers of resentment became so intense that the boys voted her in.

Participants in the old-boy network of science advice can take pride in serving their country. But the duties—arduous and disruptive of normal work though they may be—also provide important career advantages. Appointment to an advisory committee not only signifies stature in the profession, but also imparts stature: You are picked because you are important and you gain importance because you were picked. Service on federal advisory committees is routinely included in *Who's Who* entries and on curriculum vitae.

However, in addition to glory, there are other rewards for service. Participation on Washington science committees provides a window on government affairs that can be useful for the members' home institutions. And it provides personal contacts with a range of rising and already risen professionals that may be of personal advantage. To become known as proficient in committee work is not harmful to career prospects. As the system works, however, extremely few women get the opportunity.

The standard explanation for the scarcity of women in the federal advisory system is that the number of women in science and engineering is relatively small; also, because of long-ago educational patterns and discriminations, the number with the requisite professional seasoning is even smaller.

That's all true, but education and employment statistics show that women in science and engineering, though a minority, are far from a rarity.

In 1979, according to *Science Indicators 1991*, 11,118 women with doctoral degrees in science or engineering were employed in research and development. Many thousands of other women PhDs held non-R&D jobs. In that same year, the number of male PhDs in R&D totaled 88,764. Ten years later, the ranks of female PhDs in R&D had risen to 26,658, while the number of men had increased to 127,456.

On the basis of these numbers, it is difficult to account for only one woman on the 29-member Energy Advisory Board, one woman on the 24-member National Science Board, one

woman on the 13-member President's Council of Advisers on Science and Technology, or a mere 67 women among the 1566 members of the National Academy of Sciences. The virtually all-male Academy of Engineering can take refuge in the fact that the entrance of women into engineering training and careers has lagged behind other scientific and technical fields. In 1989, only 592 women held PhDs in engineering.

Nonetheless, the alibis for males hogging the plum advisory posts and honorary titles, and all the benefits that accrue to their possessors, are threadbare. Even so, the old-boy network hangs on, while its leaders, at the drop of an honorary degree, earnestly proclaim the importance of encouraging women to pursue careers in science and engineering.—DSG

Job Changes & Appointments

At the White House Office of Science and Technology Policy: **Karl Erb** has been nominated to be Associate Director for Physical Sciences and Engineering. He succeeds **Eugene Wong**, who moves to the post of Associate Director for Industrial Technology, vacated last year by **William Phillips**, who resigned for health reasons.

Elaine Johnson, Director of the Office of Substance Abuse Prevention in the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA), has been appointed Acting Director of ADAMHA. She succeeds **Frederick Goodwin**, who resigned following an uproar over his suggestion that primate research provides insights on inner-city violence. As part of a previously planned reorganization, Goodwin has been appointed Director of the National Institute of Mental Health, part of ADAMHA.

William B. Lenoir, NASA Associate Administrator for Space Flight, has resigned from the agency, effective May 4. Lenoir, a former astronaut, heads the Space Shuttle program. His departure will follow that of another ex-astronaut, NASA Administrator **Richard Truly**, forced out by Vice President Dan Quayle, head of the National Space Council, in a quest to stir up the inbred, tired agency. The new chief, TRW executive **Daniel Goldin**, is expected to be confirmed by the Senate this week.

David Sanchez, Assistant Director for Mathematical and Physical Sciences at the National Science Foundation for the past two years, has resigned, effective May 31, and tentatively plans to return to Lehigh University, where he is a Professor of Mathematics and former Provost.

At NSF: **Eugene Cota-Robles**, Professor Emeritus of Biology and former Academic Vice Chancellor, UC Santa Cruz, has been named Special Assistant to the Director for Human Resources Development and Affirmative Action Officer, a post with responsibilities in minority programs.

David Dickson has resigned as Editor of the British weekly *New Scientist* after two years on the job. Dickson formerly was European correspondent for *Science*.

... No Coordination for Providing Scientific Aid

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prevail among federal science agencies. The difficulties are compounded by an absence of coordination within the federal government and the venerable bureaucratic preference for inactivity over risk. No one in the federal science establishment is in overall charge of trying to assist science and technology in the old USSR. The extensions of help so far have been trivial in terms of the vast scale of research activities in the ex-Soviet Union, and little very assistance is in the works at present, apart from the newly announced space and nuclear purchases.

At what amounts to give-away prices, these will bring to the US a Topaz 2 nuclear reactor for generating power in space, a set of unique space thrusters, and a supply of plutonium-238 that can be used in space batteries. As the *New York Times* noted last week, "Western intelligence agencies at one time would have probably paid billions of dollars to get their hands on a Topaz 2, which is similar to ones used to power Soviet spy satellites."

A two-person team from the National Science Foundation, dispatched to scout the situation in the old USSR, returned 10 days ago with recommendations for proceeding carefully by initially supplementing existing NSF cooperative research projects with ex-Soviet scientists.

At the present time, about 90 such agreements are in effect or soon will be, with support totaling around \$2 million. Within NSF, they're talking about adding another \$1 million to that sum, and then seeing how things work out before expanding to other assistance.

The National Institutes of Health, meanwhile, has announced the commitment of \$460,000 to support seven new cooperative research projects in the ex-Soviet Union over the next three years.

Even these relatively small sums require some fiscal acrobatics within the agencies. NSF, with a budget of nearly \$3 billion, and NIH with over \$8 billion, would seem to be able to mount more bountiful assistance efforts. But with never enough to satisfy domestic applicants, virtually all their money is committed long in advance, and spare cash is rare.

Beyond the internal disarray in the ex-Soviet Union and the difficulties of finding money in tight American budgets, there may also be a darker explanation for the limited scale of assistance. The slow pace and sparse funding are seen by some as the intent of a high-level, undeclared design to deny help to the sci-tech capabilities of a former adversary that might turn hostile again.

Suggestions of a grand space alliance with the ex-Soviets have drawn deep frowns from the Pentagon and the State Department. NASA, under Congressional pressure to look for financial savings through cooperation in space, has agreed to consider the Soviet Soyuz spacecraft as a "life-boat" for the Space Station—since budget considerations eliminated plans for a home-built escape vehicle. But

NASA officials told a Senate hearing on March 18 that no other ex-Soviet hardware is under consideration. Senator Al Gore (D-Tenn.), who chaired the hearing, expressed skepticism about NASA's expressed willingness to investigate other collaborations with the languishing former Soviet space program. And similar doubts about the Administration's intentions were voiced at a hearing last week held by the House Science, Space, and Technology Committee, which put on a video conference with ex-Soviet officials.

The latest scientific appeal for helping science in the former USSR came March 20 in a unanimously endorsed resolution by the National Science Board, senior policy body of the National Science Foundation. Introduced by Board Member Peter H. Raven, Director of the Missouri Botanical Garden, the resolution called for special efforts to help ex-Soviet scientists and engineers "through these extraordinarily difficult times."

The NSF resolution followed by two weeks a similar call for help issued by some 120 American scientists, engineers, and educators who met at the National Academy of Sciences. The Academy meeting, held at the request of White House Science Adviser D. Allan Bromley, warned that opportunities are running out, and urged the government to move "immediately and aggressively" to discourage a brain drain from Russia and the other republics.

The Academy meeting proposed spending \$50 million to \$100 million for lab equipment, books, and journals, \$25 million for programs outside the scope of the Pentagon-assisted Moscow S&T Center, and an unspecified portion of a \$400 million fund that the Defense Department has designated for dismantling strategic weapons with the assistance of ex-Soviet specialists.

Several little-known difficulties in the path of assistance were reported by the NSF staffers recently returned from the former-Soviet Union, Gerson Scher and Christine Glenday. Scher told SGR that the Russian Republic takes 38 percent off the top of foreign fund transfers and that research institutes take a cut for overhead costs. "About 10 to 20 percent is all that would be left for the researchers," Scher reported.

Given these circumstances, he said, it would be preferable to supplement existing cooperative projects, and to assign the principal investigators on the American side to act as fiscal agents. The present portfolio of some 90 projects, he said, might be supplemented by about \$10,000 each.

Under election-year criticism, the White House has slowly begun to stir toward general assistance to the ex-Soviet republics. The international brotherhood of science is far ahead of the politicians in recognizing needs and opportunities. Political leadership is needed to set the tone, energize the bureaucracy, and free up a small fraction of the \$300-billion-a-year previously devoted to maintaining a military stance against the Soviets. After all that's done, the scientists can proceed fruitfully.—DSG

NSF Is Thinking Small on Helping Ex-Soviets

NSF Director Walter Massey discussed aid to scientists in the ex-Soviet Union at a meeting with reporters March 20 following the monthly meeting of the National Science Board. Also present was Marta Cehelsky, Policy Officer of the Board, who speaks Russian and recently visited the former USSR. Following are excerpts, transcribed and edited by SGR.

Q. *Of what order would [NSF assistance to the ex-Soviets] be? Several million?*

Massey. No, no, no, no. An order of several hundred thousand to begin.

Q. Really? Is that all?

Massey. Well, we can't spend the hundred thousand that we have now. This is just the first effort. It's not a matter of the money right now. Even if I had \$10 million, I wouldn't know how to use it.

Q. Couldn't you go to the Russian Academy and say—

Massey. No.

Q. Why?

Massey. We've gone through that. They came to see me, the Russian Academy and the Minister of Science, right here, same conversation—about an hour of telling me the problems. And I said, "Fine. We are ready to do something. Tell me what we can do.... If you have a plan, we can find resources." I'm convinced of that....

Q. Some American organizations, Sun Microsystems, for example, have made arrangements with ex-Soviet research groups, and are providing them with support.

Massey. I don't know exactly how they're doing it. We're going to look at that. I read about that. Also there was an agreement with the [ex-Soviet] fusion lab [which will receive support from the US Department of Energy]. We're just not sure how they've done it, but we will look at it....

Cehelsky. There are so many pressing needs there, and there is such a societal or, perhaps more specifically, institutional uncertainty and change, that the people really don't understand yet how to articulate their needs and demands. And furthermore, they very often don't know enough about how American or European science, for that matter, function so as to be able to frame their requests in a way that we can respond to. It's partly a cultural problem, too. They're just completely overwhelmed.

Q. Is there a lead agency for bringing the various US government research organizations into dealing with this problem?

Massey. I would say, State [Department], probably. But there is not an overall multi-agency effort focused on all of the activities.... Most of the activities

at State and other agencies are concerned about the scientists in the former weapons laboratories.... Nevertheless, what we will start with are the scientists that we already are working with. And most of those would not be in those kinds of laboratories. So, I guess there are parallel efforts of different agencies.

Cehelsky. It's pretty free form. People are searching for ways to do this. There isn't a master plan.

Q. *It's been a year now that there has been talk about a critical situation developing in the former Soviet Union. And it's "free form," and no indication of a sense of urgency. Why isn't this moving along more expeditiously? That's a question many people are asking.*

Massey. I realize that. You hear that sense of frustration around the [National Science] Board: Why can't we do something? I can't answer it generally. I related my experience, and I shared the sense of frustration—that we want to do something, that we have authority from the Board, and even though the resources we would start with are very small, we can't seem to find a way to commit those resources. So, that's what I'm hoping we'll be able to do in the next several days....

Q. *It would seem that the natural place for orchestrating this would be OSTP [White House Office of Science and Technology Policy]. What are they doing?*

Massey. You'd have to ask OSTP, of course. But they are working with all of the agencies, and, I guess, trying to assist all of us in every way they can. But they aren't coordinating a master approach, if that's what you mean.

Q. Is anybody?

Massey. I don't think so.

Cehelsky. Don't forget, by the way, that it does require a partner on the other side against whom you react. And there has been considerable change within the former Soviet republics. When you look at the Russian Academy, and the change in the structure of Russian government with respect to the ministries that are responsible for these things, you first have to find out whom you're talking to. That has been part of the problem.

Massey. You might relate the other aspect of this. Not so much in Russia, but in Ukraine, you met with the scientists there, and they are very leery of the massive programs where funds would go to institutions.

Cehelsky. They expressed to me—and this is from working scientists to the highest levels of the Academy and government—that what they're interested in is project-oriented research. They want cooperative agreements that will establish foundations that are working relationships, in fact, and that will continue after a massive air lift of assistance is dissipated. So, it's a slightly different approach.

NIH Head and Chairman Dingell Battling Again

Healy and Dingell are at it again, with the short-tempered diva of biomedical research calling in the FBI to plug news leaks that she says threaten the very survival of the half-century old, \$9-billion-a-year National Institutes of Health.

In response, the rectitudinous Chairman has accused Healy of "apparent acts of harassment and intimidation aimed at courageous, public-spirited whistleblowers." To which he added, in a single-spaced three-page letter dense with vituperation: "Let me be blunt, Dr. Healy: there is no public interest in covering up mismanagement, let alone possible criminal acts involving fraud, false statement and document destruction."

The performers in this drama are, of course, Bernadine Healy, MD, Director of the National Institutes of Health, and Congressman John Dingell (D-Michigan), who, as Chairman of the Energy and Commerce Committee and its Subcommittee on Oversight and Investigations, is NIH's overseer in the US House of Representatives.

By accounts of staffers close to the principals, each genuinely regards the other as slightly unhinged, surrounded by dunces and scoundrels, and naturally inclined to malefactions in betrayal of the public interest. While many public figures actually get on reasonably well despite *ex officio* jousting on stage, it may be surmised in this matter that sincere dislike has taken over.

As has generally been the case since the detonations began last spring, shortly after Healy's installation at NIH, the issue is NIH's inept policing of scientific misconduct, a task assigned to the NIH Office of Scientific Integrity (OSI). Disdain for OSI's performance was and remains widespread, but different parties have different objections. Dingell's scorn, which long preceded Healy's arrival, was based on his belief that NIH was soft on fraud and disposed to bashing so-called whistle-blowers—a species that he and his Subcommittee staff cherish as public heroes and providers of inside information.

Other critics complained that NIH trampled the rights of the accused. And some were offended by frequent leaks of confidential, in-the-mill reports and other documents from OSI. When Healy came aboard last April, she rightly concluded that OSI needed a drastic overhaul—and to the tune of several reported screaming sessions, she went at it with a sledgehammer.

One of her victims was the former Acting Director of OSI, Suzanne Hadley, who had served as chief investigator on OSI's two most celebrated cases, involving Nobel laureate David Baltimore and NIH's own Robert Gallo. At her own request, Hadley had moved to another assignment at NIH before Healy became Director, but Hadley did agree to finish up the investigations and reports on a parttime basis.

At that point, an unfinished version of the Baltimore report, accusing him of stonewalling in behalf of a colleague deemed guilty of fabricating data, had long been leaked from OSI and had been widely reported in the press. Dingell

and staff liked the report and took it as evidence that, finally, under their lash, OSI was shaping up.

Director Healy, however, looked with suspicion at Hadley, relieved her of further duties with OSI, and declared war on leaks from OSI. Dingell responded by summoning the NIH head to a hearing last August at which he accused her of wrecking what he viewed as a revitalized OSI [SGR, August 1: "NIH Director Defends Curbs on Misconduct Office"]. Dingell strongly implied that Healy had a nasty motive for vengeance. Hadley, it was revealed, had faulted Healy's handling of a misconduct investigation at the Cleveland Clinic, where Healy headed research before her NIH appointment. Healy expressed outrage at Dingell's linkage of the two events. The hearing was marked by shouted exchanges and evident bitterness between the two.

The latest Dingell-Healy eruption also centers on Suzanne Hadley, whom Dingell—employing a tactic that he often uses—"borrowed" from NIH last December to assist his on-going inquiry into OSI.

Despite Healy's campaign against leaks from OSI, the place still leaks, often to the *Chicago Tribune*, whose Pulitzer Prize reporter John Crewdson has led the journalistic field in coverage of the long-running controversy concerning Robert Gallo's role in the identification of the AIDS virus. All this despite changing of OSI's locks, engagement of a security officer, and other anti-leak steps.

Apparently obsessed by the leaks, Healy unsuccessfully tried to enlist the gumshoe services of the Inspector General of the Department of Health and Human Services. IG's, however, are not always hostile to leakers.

Healy then turned to the FBI, writing on March 10 to an agent in the FBI's Silver Spring, Md., office an emotionally souped-up letter prophesying the demise of NIH and government-supported biomedical and behavioral research if the leaks are not sealed: "I cannot overemphasize the damage these breaches of trust and duty have already caused and the enormous additional prospective damage which NIH and the PHS [Public Health Service] face," she stated, adding that OSI staff members have been immobilized, "given their reasonable belief that every action they take is potentially compromised as soon as it occurs."

The financial cost has been heavy, Healy wrote to the FBI man, including "changing locks, sweeping for electronic surveillance, and other similar security measures." If the "illegal acts" continue, Healy warned, "they would likely seriously jeopardize public and Congressional support for the 9 billion dollar annual research budget."

On March 11, Hadley was questioned by an FBI agent, and Dingell fired off an outraged letter to Healy, accusing her of strong-arm tactics and deception. Pledging protection for Hadley, the Chairman stated: "Regrettably, this is not the first time we have been forced to write to you about apparent acts of harassment and intimidation aimed at courageous, public-spirited whistleblowers."—DSG

More IN PRINT: EPA Science, R&D in Italy, Etc.

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Tennessee). NASA witnesses shrugged off his testimony with suggestions that somehow or other, the space agency would get by.

Order from: US General Accounting Office, 441 G St. NW, Room 5140, Washington, DC 20548; attn. Mark Gebicke; tel. 202/275-5140.

Safeguarding the Future: Credible Science, Credible Decisions (EPA/600/9-91/050; 52 pp., no charge), very poor grades for the state of science at the Environmental Protection Agency by a four-member panel appointed last year by the head of EPA. Among 11 findings, all negative: EPA lacks a "coherent science agenda," does not have a commitment "to make high-quality science a priority," and often fails to make use of scientific advice early in the regulatory process. The report adds that EPA "has not enlisted the nation's best scientists to provide the research and technical information needed for decisionmaking. Problems in the agency's approach to academic grants and centers have discouraged many university-based experts from working with EPA." Inhouse, the panel advised, "the Agency must promote an atmosphere of open discussion in which the scientific staff feels free to express conflicting opinions and judgments without fear of reprisals." Members of the panel: Raymond C. Loehr (Chairman), Professor of Civil Engineering, University of Texas; Bernard D. Goldstein, Director, Environmental and Occupational Health Sciences Institute, Rutgers University; Anil Nerode, Professor of Mathematics and Computer Science, Cornell University, and Paul G. Risser, Provost and Vice President for Academic Affairs, University of New Mexico.

Order from: Center for Environmental Research Information, EPA, 26 West Martin Luther King Drive, Cincinnati, Ohio 45268; tel. 513/569-7562.

Forest Service Planning: Accommodating Uses, Producing Outputs, and Sustaining Ecosystems (GPO Stock No. 052-003-01264-2; 206 pp., \$10), from the Congressional Office of Technology Assessment (OTA), extensively faults the Forest Service for the values underlying its management of 191 million acres of land in 43 states. OTA says the Forest Service, part of the US Department of Agriculture, emphasizes timber production and "gives relatively little emphasis to sustaining ecosystems." On this score and many others, OTA observes, the Forest Service is at odds with many of its own employes. It adds that the Forest Service "asks for public input, but the input does not affect final decisions."

The report was prepared under an advisory committee chaired by Professor Hanna J. Cortner, Water Resources Research Center, University of Arizona. It follows a related OTA report, released in July 1990, that charged the Forest Service with ignoring major provisions of the Forest and

Rangeland Renewable Resources Planning Act (RPA); **Forest Service Planning: Setting Strategic Directions Under RPA** (GPO Stock No. 052-003-01202-2; 148 pp., \$6.50)

Order from (checks payable to): Superintendent of Documents, USGPO, Washington, DC 20402-9325; tel. 202/783-3238. Add 25 percent to price for international orders.

Reviews of National Science and Technology Policy: Italy (163 pp., \$25), latest in a long-running series by the Organization for Economic Cooperation and Development (OECD), which follows a format of copious statistics on the subject country's R&D enterprise and related matters, the organizational layout, and commentary and recommendations. The judgment here is that research in Italy is underfinanced, administratively unwieldy, and excessively weighted toward big projects in physics and space, to the neglect of "little science." Accountability was also deemed deficient, with a "university representative" quoted as saying, "Nobody asks us what we do with the money, how good we are." The review team for the report: George Bugliarello, President, Polytechnic University of New York; Kerstin Eliasson, Adviser for Science Affairs, Prime Minister's Office, Sweden; Juhani Kuusi, Director General, Technology Development Center TEKES, Finland, and Jean-Jacques Payan, Director of Research, Renault, France. Giovanni Rufo, of OECD's Division for Science and Technology Policy, served as rapporteur.

Previous OECD S&T reviews listed as available: **Austria** (1988, \$15.50); **Denmark** (1988; \$19.80); **Finland** (1987; \$19); **Netherlands** (1987; \$20); **Switzerland** (1989; \$21).

OECD publications are available from OECD offices and government and commercial bookshops in many cities throughout the world. In the US, order from: OECD Publications and Information Center, 2001 L St. NW, Suite 700, Washington, DC 20036-4910; tel. 202/785-6323.

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Science and Technology Leadership in American Government: Ensuring the Best Presidential Appointments (92 pp., \$12.95, plus \$3 shipping), from the National Academy of Sciences, a brief for easing the recruitment and post-federal-employment barriers for the top 78 science and technology positions in the Executive Branch of government, including Presidential Science Adviser, heads of NIH, NASA, NSF, etc. Though acknowledging the need for conflict-of-interest rules, the report says they've become so rigorous and complex in recent years that many outstanding prospects shun federal service. Restrictions on post-government employment are described here as "the biggest single disincentive to public service, now that pay levels have been increased substantially." (Pay for most of the 78 Presidentially appointed S&T jobs is currently \$112,000, with a few others as high as \$129,500.) The report says that bans on post-federal employment "should be of short duration and narrowly applied to officials who have had substantial personal involvement in awarding or administering a contract." As the rules have become stricter, the report states, average lag time in hiring senior S&T officials has increased from 4.7 months in the Carter Administration, to 6.2 under Reagan, and 9.1 under Bush. The report also says the President should designate his Assistant for Science early so that he or she can advise on filling top S&T jobs. It concedes, however, that presidential staffing rarely works that way. The report was prepared by a Committee chaired by Kenneth W. Dam, the IBM Vice President who is currently interim CEO of the scandalized United Way of America. Support for the study was provided by the Academy and the Carnegie Commission on Science, Technology, and Government.

Also from the Academy: **Toward a National Health Care Survey: A Data System for the 21st Century** (\$27, plus \$3 shipping), a critical review of plans for restructuring the various surveys conducted by the National Center for Health Statistics (NCHS) into an integrated National Health Care Survey. Not ambitious enough, says the Academy report, which was commissioned by the NCHS, an agency of the Public Health Service. Concluding that the proposed plan falls short for assessing the relationship between health status and treatments and expenditures, the report expresses concern about "reducing the already small sample sizes to offset increased costs." Among the many recommendations for improving the survey: An extension of coverage to health services provided by physicians and non-physicians, and the provision of \$25-30 million per year within the NCHS appropriation for operating a National Health Care Data System to integrate and dispense survey data. The report was jointly produced by the Academy Committee on National Statistics and the Institute of Medicine, health-

policy arm of the Academy. Co-chairing the study were Edward B. Perrin, Chairman, Department of Health Services, School of Public Health and Community Medicine, University of Washington, and William C. Richardson, President, Johns-Hopkins University.

Order from (checks payable to): National Academy Press, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 1-800/624-6242; in the Washington, DC area: 202/334-3313.

Technology Policy and Critical Technologies: A Summary of Recent Reports (47 pp., no charge, supply limited), also from the Academy, a review of the products of a leading growth sector in Washington: dour policy studies and inventories of critical technologies. Noted are nearly a score of such reports produced in the last couple of years by government agencies, Congressional researchers, industrial lobbies, etc., often for the purpose of prodding the White House to boost civilian high-tech industry. The author of this assessment, Mary Ellen Mogee, President of Mogee Research and Analysis, Great Falls, Va., observes, "Most of the reports involve little or no serious original research or data collection and little or no guiding theoretical framework.... Furthermore, the critical technologies identified in some of the lists are so broad that they cannot be very helpful in making resource allocation decisions." The fascination with critical technologies remains intense, however, and will soon be enshrined in a US Critical Technologies Institute, created by Congress and reluctantly accepted by the Bush Administration [SGR, January 15: "Critical Tech Institute Proceeding Under New Formula"]. Mogee's report was written for the Academy's Manufacturing Forum, which is phasing out of existence after unsuccessfully trying during 1990-91 to serve as a meeting ground for senior industrial executives and top government officials.

Order from: National Academy of Sciences, Manufacturing Forum, NAS-301, 2101 Constitution Ave. NW, Washington, DC 20418; attn. Ms. Gibbs; tel. 202/334-1579.

NASA Budget: Potential Shortfalls in Funding NASA's 5-Year Plan (GAO/T-NSIAD-92-18; 7 pp., no charge), text of Senate testimony by Neal P. Curtin, of the General Accounting Office, warning that funds available for NASA over the next five years are likely to be insufficient by \$15-\$20 billion for projects currently under way. Noting that NASA's budget, \$14.3 billion this year, would have to rise to \$21 billion by fiscal 1997 to finance work in progress, Curtin said NASA's financial planning is unrealistic and could eventually require program cuts, terminations, and stretchouts "to make up for lower than expected funding." Curtin, Director of Planning and Reporting in GAO's National Security and International Affairs Division, testified March 17 before the Senate Subcommittee on Science, Technology, and Space, chaired by Senator Al Gore (D-

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